We claim,

1. A vertebral disc endoprosthesis comprising a rounded, resilient nucleus body convex on all surfaces and concaval-convex elements, each concaval-convex element having an outer convex surface for engaging adjacent bone structure which has been milled to mate with the concaval-convex element outer convex surface, and a corresponding inner concave surface for engaging the rounded resilient body.

2. The vertebral disc endoprosthesis according to ~~Claim 1~~ claim 1 wherein each concaval-convex element is of relatively constant cross-sectional thickness.

3. The vertebral disc endoprosthesis according to ~~Claim 1~~ claim 1 wherein said resilient nucleus body comprises a relatively resilient central body, wherein the endoprosthesis further includes a gasket surrounding a circumference of the central body, the resilient nucleus body snugly engaging the adjacent, mating concave surfaces of the concaval-convex elements.

4. The vertebral disc endoprosthesis according to ~~Claim~~ claim 3 wherein the gasket is stiffer than the resilient nucleus body.

5. The vertebral disc endoprosthesis according to ~~Claim~~ claim 3 wherein the concaval-convex elements do not engage one another.